Name:

Date:

The relationship between two variables is one of the most important relationships in all of statistics. In this project, you will be finding two variables describing the same set of individuals. You will then create a hand-drawn scatterplot or a posterboard (or paper at least 11” x 17”) and **on a separate sheet of paper** write a 1-2 page paper that answers the following ten questions/prompts.

Complete the following *in addition* to your scatterplot:

1. Introduce your project by giving a bit of background about the two variables and individuals chosen. Why did you choose this data set? What did you think would be interesting about it?
2. Identify the explanatory and the response variable.
3. Describe your scatterplot using *direction, form* and *strength.*
4. Calculate the correlation between the two variables.
5. Tell what the correlation tells you about the relationship between your variables.
6. Calculate the regression line.
7. Interpret the slope.
8. Interpret the y-intercept.
9. Choose two points not on the line.
   1. Use your regression line to predict a y-value for each of the x-values you have chosen.
   2. Find the **residual** of each point.
10. Write at least one paragraph telling what you concluded about the relationship between the two variables.

To remember:

* You must have at least 25 individuals in your data set.
* Your paper must be typewritten.
* Your scatterplot should be neat and your poster colorful.
* You will be presenting this to the class on **Tuesday, March 8, 2016**.